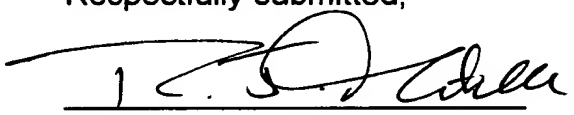
REMARKS:

The amendments in this Preliminary Amendment are amendments made by the applicants and are not for the purpose of meeting any statutory requirements.

A marked-up version of the amendments is attached.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Paragraph [0006] on page 2 has been amended as follows:

A conventional radio received utilizes no quantization in either time or amplitude in its first stages. The existence of many large disturbances will make amplitude quantization difficult due to the number of required bits; time ~~quantization~~ quantization would lose details on for instance phase information. Instead the use of downconversion and sharp filtering on the generated IF frequency yields the effect of losing undesirable signals. The crucial element in this is that effectively the mixing element (which may be called phase detector) forms a simple convoluter to emphasize the desired signal.--

Paragraph [0020] on page 5 has been amended as follows:

An all digital PLL has one major drawback; the feedback signal and the reference typically will not be in phase, because the object of the PLL is to suppress certain signal artifacts. This lack of phase alignment directly translates to timing errors; the implicit sampling is discrete and therefor has rounding/trunking errors. This in itself may not seem too serious at a first glance, but it has a direct impact on the transfer function of the PLL, which is related to the transfer function of the phase detector.

Paragraph [0027] on page 7 has been amended as follows:

~~Figure 1 is a timing chart showing the effect of rejecting error components with high frequency;~~

Figure 1 is a functional block diagram of a digital controlled oscillator;

Paragraph [0028] on page 7 has been amended as follows:

~~Figure 2 is a functional block diagram of a digital controlled oscillator;~~

Figure 2 is a timing chart showing the effect of rejecting error components with high frequency;

Please replace paragraph [0053] with the following rewritten paragraph:

Paragraph [0053] on page 11 has been amended as follows:

It may be impossible to detect any difference between very small, small, and normal error signals if they all fall in the region around the 0. This in turn makes it impossible to give any detail about the input signal by just looking at the output of the phase detector. It is precisely the details that are interesting if one would like to characterize for instance the noise behaviour of a telecomm line. The details may reveal effects such as noise typically from amplifiers, switches etc. These noise sources always will be small (otherwise the remaining information over the line is zero) and thus require a fine resolution for study.

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Paragraph [0067] on page 14 has been amended as follows:

-- A ~~second~~ decimator can be added if desired to derive a wanted error signal for a low frequency changing output. --

Paragraph [0071] on page 15 has been amended as follows:

Figure 10 shows a plurality of acquisition PLLs 1 connected through operational block 5 to output PLL 1. The acquisition PLLs 1 are connected through Muxes 6 to three inputs in 1, in 2, in 3, and crystal oscillator7. This ~~emodiment~~ embodiment ~~allows~~ allows the quality of the circuits to be tested. --